

ABSTRACT OF THE DISCLOSURE

5 A frequency shifting device. The present invention provides a device and method
for shifting a frequency of an optical signal comprising the steps of providing a layer of
optically refractive material having a moving refractive boundary responsive to an
application of an electrical signal. The inventive device includes a layer of optically
refractive material having a refractive boundary responsive to an application of an
10 electrical signal and an arrangement for providing an electrical signal to the layer to effect
a predetermined frequency shift of an optical signal passing therethrough. In an
illustrative embodiment, the device includes an active polymer layer, an optically
conductive first cladding disposed beneath the active polymer layer, and a second
cladding layer disposed above the active polymer layer, a microstrip line disposed over
15 the second cladding layer and a ground plane beneath the first cladding layer.